

REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

Claims 1-25 stand rejected under 35 USC 102(b) as allegedly being anticipated by Firestone et al. The rejection is again traversed.

At the outset, Applicants note that, in maintaining the rejection under 35 USC 102(b), the Examiner states that the rejection is for “essentially for the reasons of record”. In fact, the Examiner has shifted his position from that set out in the Office Action dated June 30, 2006. In that Action, the Examiner took the position that, on bioreduction, compound 6 of Firestone et al “would form a 3-(6-dimethylaminomethyl-3-amino-quinolin-8-yl)-acrylic acid” and “[t]his moiety could react with a second molecule thereof (i.e. dimerization)”. The Examiner took the position that such dimerization was an intramolecular alkylation reaction. In the Amendment filed October 2, 2006, Applicants pointed out that the Examiner’s position was incorrect since dimerization (if it occurred at all) was not an intramolecular alkylation reaction. In the present Action, the Examiner now expresses the view that “[t]he aminoquinoline acrylic acid could intramolecularly alkylate because the amino group could react with the acrylic acid double bond.” Respectfully, given this shift in position, the Examiner’s assertion that the rejection is “for essentially the reasons of record” is not entirely correct.

Furthermore, the Examiner’s statement regarding the possibility of intramolecular alkylation is not entirely clear. There are two amino groups in the bioreduced form of compound 6 of Firestone et al (i.e., the –NMe₂ group and that formed by reduction of the nitro group). The Examiner does not state which, in his view, would participate in an intramolecular alkylation reaction. Further, the Examiner offers nothing by way of evidence to support his position.

In addition, the Examiner provides no explanation for the inclusion of all of claims 1-25 in the rejection. Certain of the claims (e.g., claims 6 and 11) define structures not clearly disclosed by Firestone et al. The Examiner is requested to provide basis for rejecting these claims as anticipated, or withdraw the rejection thereof.

As pointed out previously, Firestone et al discloses a compound comprising a bioreductive moiety (a nitro-quinoline) linked to a therapeutic agent (phosphoramido mustard (PDA)). In the presence of hypoxic tissue, the nitro-quinoline undergoes bioreduction with consequential elimination of PDA (see Scheme I at the top of page 2934 of Firestone et al). The “remnant” of the bioreductive moiety (i.e., after release of the PDA) is shown as being a quinoline salt in which the nitrogen atom of the quinoline is positively charged and the quinoline residue has an aliphatic chain incorporating a double bond. (The structure of the salt is shown as the product of Scheme I). This product would not be capable of undergoing an self-alkylation reaction (that is, an intramolecular alkylation reaction) as required by claim 1 nor does it incorporate a sterically hindered alkylating center (see claim 18). There are no groups in the product of Scheme I of Firestone et al that could react intramolecularly.

In view of the above, reconsideration and withdrawal of the rejection are requested.

Claims 1-25 stand rejected under 35 USC 112, second paragraph, as allegedly being indefinite. Withdrawal of the rejection is submitted to be in order for the reasons that follow.

In the Office Action dated June 30, 2006, the Examiner contended that various terms used in the claims were “vague and indefinite”. In response, Applicants pointed out that these terms are widely used in the art and that the subject specification provides definitions (particular attention was directed to the final two paragraphs on page 4 of the specification, particularly with

BLAKE et al
Appl. No. 09/367,261
November 6, 2007

reference to the term "non-cytotoxic bioreductive moiety" and to page 6 in respect of "species having an alkylating centre...self-alkylating reaction").

The Examiner now contends that the terms are "unduly functional". The comment offered by the Examiner in support of this assertion, "[f]or example terms like 'self alkylation to generate a non-toxic residue could not be readily ascertained", is unclear. The Examiner is requested to indicate what is meant by "terms ... could not be ascertained" so that Applicants can offer an appropriate response.

The terms noted by the Examiner are "terms of art" and thus their meaning would be well understood by an artisan. Accordingly, no revision is believed necessary and reconsideration is requested.

This application is submitted to be in condition for allowance and a Notice to that effect is requested.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: Mary J. Wilson
Mary J. Wilson
Reg. No. 32,955

MJW:tat
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100